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vinyl monomer and forming two incompatible polymer phases (A) and (B) and (ii) 0.1 to 20 parts by weight, based upon 100 parts by weight of the total polymer component including the block copolymer, of a block copolymer having at least two mutually incompatible blocks (a) and (b) in which the block (a) is compatible with the polymer phase (A) and incompatible with the polymer phase (B) and the block (b) is compatible with the polymer phase (B) and incompatible with the polymer phase (A), and comprising at least one conjugated diene monomer and, optionally, at least one conjugated diene monomer, wherein the polymers forming the polymer phases (A) and (B) satisfy the following equations (I) and (II):

$$Mw_{30}(A)/Mw(a) \leq 1.2 \quad (I)$$

$$Mw_{30}(B)/Mw(b) \leq 1.2 \quad (II)$$

wherein  $Mw_{30}(a)$ : a value of molecular weight corresponding to 30% of the cumulative area when converting the curve of the distribution of the molecular weight measured by GPC to the integrated molecular weight curve of the polymer forming the polymer phase (A),

$Mw_{30}(B)$ : a value of molecular weight corresponding to 30% of the cumulative area when converting the curve of the distribution of the molecular weight measured by GPC to the integrated molecular weight curve of the polymer forming the polymer phase (B),

$Mw(a)$ : weight average molecular weight of block (a) of block copolymer, and

$Mw(b)$ : weight average molecular weight of block (b) of block copolymer.

AI 2. (Amended) A rubber composition as claimed in claim 1, wherein 5 to 200 parts by weight, based upon 100 parts by weight of the block copolymer, of polymer ( $\alpha$ ) compatible with the block (a) and the polymer phase (A) and/or polymer ( $\beta$ ) compatible with the block (b) and polymer phase (B) are further blended and the weight average molecular weights of the polymers ( $\alpha$ ) and ( $\beta$ ) satisfy the following equations (III) and (IV):

$$Mw(\alpha)/Mw(a) \leq 1.2 \quad (III)$$

$$Mw(\beta)/Mw(b) \leq 1.2 \quad (IV)$$

wherein  $Mw(\alpha)$ : weight average molecular weight of polymer ( $\alpha$ )

$Mw(\beta)$ : weight average molecular weight of polymer ( $\beta$ ),

$Mw(a)$ : weight average molecular weight of block (a) of block copolymer, and

$Mw(b)$ : weight average molecular weight of block (b) of block copolymer.

AA 8. (Amended) A rubber composition comprising (i) an incompatible polymer blend comprising at least two diene-based rubbers selected from the group consisting of rubbers containing at least one conjugated diene monomer and, optionally, at least one aromatic vinyl monomer and forming two polymer phases (A) and (B) and (ii) 0.1 to 20 parts by weight, based upon 100 parts by weight of the total polymer component including the block copolymer, of block copolymer having at least two mutually incompatible blocks (a) and (b), in which the block (a) is compatible with the polymer phase (A) and incompatible with the polymer phase (B) and the block (b) is compatible with the polymer phase (B) and incompatible with the polymer phase (A), and

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comprising at least one conjugated diene monomer and, optionally, at least one aromatic vinyl monomer and (iii) 5 to 200 parts by weight, based upon 100 parts by weight of the block copolymer, of a polymer ( $\alpha$ ) compatible with the block (a) and the polymer phase (A), a polymer ( $\beta$ ) compatible with the block (b) and polymer phase (B) and a mixture of the polymer ( $\alpha$ ) and the polymer ( $\beta$ ), wherein the weight average molecular weights of the polymers ( $\alpha$ ) and ( $\beta$ ) satisfy the following equations (III) and (IV):

$$Mw(\alpha)Mw(a) \leq 1.2 \quad (III)$$

$$Mw(\beta)/Mw(b) \leq 1.2 \quad (IV)$$

wherein  $Mw(\alpha)$ : weight average molecular weight of polymer ( $\alpha$ ),

$Mw(\beta)$ : weight average molecular weight of polymer ( $\beta$ ),

$Mw(a)$ : weight average molecular weight of block (a) of block copolymer, and

$Mw(b)$ : weight average molecular weight of block (b) of block copolymer.

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14 (Amended) A rubber composition comprising 100 parts by weight of a block copolymer having at least two mutually incompatible blocks (a) and (b) and composed of at least one conjugated diene monomer and, optionally, at least one aromatic vinyl monomer and 5 to 200 parts by weight of a polymer ( $\alpha$ ) compatible with the block (a), and a polymer ( $\beta$ ) compatible with the block (b) and/or a mixture of the polymer ( $\alpha$ ) and the polymer ( $\beta$ ), wherein the weight average molecular weights of the polymers ( $\alpha$ ) and ( $\beta$ ) satisfy the following equations (III) and (IV):

$$Mw(\alpha)Mw(a) \leq 1.2 \quad (III)$$